



February 2023

# MONEY MARKET MUTUAL FUNDS

## Pandemic Revealed Unresolved Vulnerabilities

Accessible Version

# GAO Highlights

Highlights of [GAO-23-105535](#), a report to congressional committees

## Why GAO Did This Study

The COVID-19 pandemic highlighted the ongoing vulnerability of certain MMFs to runs. Currently holding around \$5 trillion in assets, MMFs act as intermediaries between investors seeking liquid, safe investments and corporate and government entities that issue short-term debt. If investors perceive a risk that their MMFs will suffer losses, they have an incentive to be the first to redeem their shares. A run on MMFs can spread to other entities and financial markets because MMFs are interconnected to financial firms, the financial system, and the economy.

The CARES Act and the American Rescue Plan Act included provisions for GAO to monitor the federal government's efforts to respond to the COVID-19 pandemic. This report reviews (1) SEC's reforms designed to reduce run risk at MMFs exposed by the 2007–2009 financial crisis, (2) available evidence on the effectiveness of MMF reforms in reducing run risk during the pandemic, and (3) current actions SEC is taking to reduce run risk at MMFs.

GAO reviewed studies and reports by federal agencies and other stakeholders about the vulnerability of MMFs to runs, analyzed MMF data on changes in fund assets, and reviewed SEC rule releases and related materials. GAO also interviewed officials from SEC and other federal agencies, three industry associations, and three MMFs.

View [GAO-23-105535](#). For more information, contact Michael E. Clements at (202) 512-8678 or [clements@gao.gov](mailto:clements@gao.gov)

February 2023

# MONEY MARKET MUTUAL FUNDS

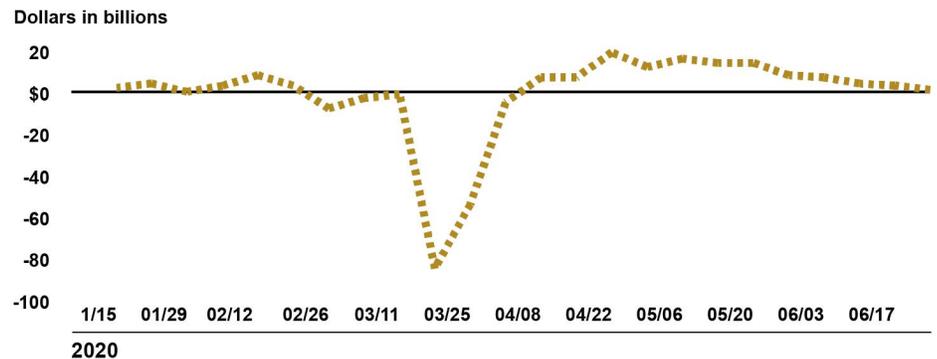
## Pandemic Revealed Unresolved Vulnerabilities

### What GAO Found

In 2010 and 2014, the Securities and Exchange Commission (SEC) revised its money market mutual fund (MMF) rules after some MMFs experienced runs (heavy redemptions) during the 2007–2009 financial crisis. For example, SEC required MMFs to hold minimum levels of liquid assets that they could sell to meet redemptions. If these liquidity levels fell below the minimum, SEC allowed certain MMFs to charge investors a liquidity fee for redeeming shares or to impose a redemption gate to temporarily suspend redemptions.

Evidence indicates that SEC's reforms did not prevent runs during the COVID-19 pandemic. For example, prime MMFs—which can invest in all types of short-term debt instruments—held by institutional investors experienced net redemptions of about 30 percent of their total assets in a 2-week period in March 2020 (see figure). Some evidence also indicates SEC's reforms may have contributed to the runs. Some investors may have preemptively redeemed MMF shares to avoid incurring a liquidity fee or losing access to their funds under a redemption gate. To stabilize the financial system during the pandemic, the federal government created lending and liquidity programs, including one to help support prime and tax-exempt MMFs.

Change in Total Net Assets of Prime Money Market Mutual Funds, January–June 2020



Source: GAO analysis of Investment Company Institute data. | GAO-23-105535

Accessible Data for Change in Total Net Assets of Prime Money Market Mutual Funds, January–June 2020

Date	Prime MMFs (dollars in billions)
1/08	
1/15	2
01/22	4
01/29	0
02/05	3
02/12	8
02/19	3
02/26	-8

<b>Date</b>	<b>Prime MMFs (dollars in billions)</b>
03/04	-3
03/11	-1
03/18	-85
03/25	-54
04/01	-5
04/08	7
04/15	7
04/22	19
04/29	12
05/06	16
05/13	14
05/20	14
05/27	8
06/03	7
06/10	4
06/17	3
06/24	1

In February 2022, SEC proposed a rule intended to reduce run risk by removing fees and gates, increasing minimum liquidity requirements, and adopting a new method to price certain MMF shares. Industry, academic, and other stakeholders generally support removing the link between gates and fees and minimum liquid asset levels and increasing minimum liquidity requirements. Moreover, a few stakeholders maintain that the proposed new pricing method could reduce run risk, but stakeholders generally have raised concerns about the method's complexity and cost. Consistent with its guidance, SEC staff conducted economic analyses to support the proposed rulemaking. The analyses were largely qualitative because SEC does not have data to quantify most of the proposed rule's benefits and costs. As part of the rulemaking, SEC has proposed amending an MMF reporting form, which could provide it with additional data to monitor run risk at MMFs. SEC currently plans to complete the rulemaking in April 2023.

---

# Contents

---

GAO Highlights		ii
	<b>Why GAO Did This Study</b>	ii
	<b>What GAO Found</b>	ii
Letter		1
	Background	4
	After the 2007–2009 Financial Crisis, SEC Implemented Reforms Intended to Reduce the Vulnerability of MMFs to Runs	10
	SEC’s Prior MMF Reforms Did Not Prevent Runs during the COVID-19 Pandemic	20
	SEC Has Proposed MMF Reforms Intended to Reduce Run Risk	26
	Agency Comments	33
	Appendix I: GAO Contact and Staff Acknowledgments	36
Table		
	Table 1: Characteristics of Swing Pricing and Increased Liquidity Requirements in the Securities and Exchange Commission’s Proposed MMF Reforms	28
Figures		
	Figure 1: Total Net Assets in Money Market Mutual Funds (MMF) as of September 30, 2022	6
	Accessible Data for Figure 1: Total Net Assets in Money Market Mutual Funds (MMF) as of September 30, 2022	6
	Figure 2: Total Net Assets under Management by Government, Tax-Exempt, and Prime Money Market Mutual Funds (MMF), 2008–2009	11
	Accessible Data for Figure 2: Total Net Assets under Management by Government, Tax-Exempt, and Prime Money Market Mutual Funds (MMF), 2008–2009	12
	Figure 3: Investments in U.S. Money Market Mutual Funds (MMF), by Type, 2015–2017	18
	Accessible Data for Figure 3: Investments in U.S. Money Market Mutual Funds (MMF), by Type, 2015–2017	19
	Figure 4: Change in Total Net Assets of Money Market Mutual Funds (MMF), January–June 2020	21



---

---

**Abbreviations**

Federal Reserve  
MMF  
SEC

Board of Governors of the Federal Reserve System  
money market mutual fund  
Securities and Exchange Commission

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.



February 2, 2023

Congressional Committees

Like the 2007–2009 financial crisis, the COVID-19 pandemic exposed the vulnerability of certain money market mutual funds (MMF) to large and unexpected redemptions by investors (called runs). Holding around \$5 trillion in assets at the end of November 2022, MMFs buy securities that underlie the short-term funding markets—such as short-term U.S. Treasury securities, short-term municipal securities, and commercial paper—which help support the broader financial markets and economy. The types of MMFs that were vulnerable to runs—prime and tax-exempt MMFs as described below—hold around \$1 trillion in assets. During periods of market stress, MMF shareholders may be motivated to redeem shares to avoid potential losses or redemption-related costs. If MMFs sell securities at reduced prices to meet such redemptions, the sales can contribute to stress in the underlying short-term funding markets and affect the ability of financial and nonfinancial firms to raise capital in such markets.

In response to market disruptions caused by the COVID-19 pandemic, the Board of Governors of the Federal Reserve System (Federal Reserve) created an MMF liquidity facility in March 2020, similar to the actions it took during the 2007–2009 financial crisis. The liquidity facility helped MMFs meet investor redemptions, which enhanced the functioning of the short-term funding markets and provision of credit to the broader economy. The facility ceased extending credit in March 2021. Although the facility and other actions helped stabilize the markets, some stakeholders have raised concerns that the Federal Reserve’s repeated MMF interventions could increase moral hazard and systemic risk.<sup>1</sup>

After the 2007–2009 financial crisis, the Securities and Exchange Commission (SEC) enacted a series of reforms designed to make MMFs more resilient and less vulnerable to runs. For example, in 2014, SEC

---

<sup>1</sup>Moral hazard can occur when market participants expect similar emergency actions in future crises, which thereby weakens their incentives to properly manage risks. Systemic risk is the risk that an event or events—within or outside the financial system—will substantially disrupt the provision of one or more financial system activities, resulting in significant adverse effects on the real economy.

issued regulations to enable certain MMFs to mitigate runs by giving them the discretion to impose a liquidity fee or to suspend redemptions temporarily if a fund's liquidity level falls below a specified threshold.<sup>2</sup> In light of the MMF runs during the recent pandemic, SEC proposed in February 2022 MMF reforms that would remove or revise some of the prior reforms and add new requirements designed to help prevent runs and improve the resilience and transparency of MMFs.<sup>3</sup>

The CARES Act and the American Rescue Plan Act of 2021 included provisions for us to monitor the federal government's efforts to respond to the COVID-19 pandemic.<sup>4</sup> This report reviews

1. SEC's revisions to its regulations to address the vulnerabilities of MMFs to runs during the 2007–2009 financial crisis,
2. available evidence about the effectiveness of SEC's MMF reforms in preventing or stopping runs at MMFs during the COVID-19 pandemic, and
3. actions SEC is taking to mitigate the vulnerability of certain MMFs to runs and to increase the likelihood that any mitigating actions will be effective.

For the first two objectives, we reviewed reports, rulemakings, and other pertinent materials issued by SEC, the President's Working Group on Financial Markets, the Financial Stability Oversight Council, and other federal agencies that analyzed the MMF runs that occurred in September 2008 or March 2020.<sup>5</sup> To examine available evidence about the effect of

---

<sup>2</sup>79 Fed. Reg. 47,736 (Aug. 14, 2014).

<sup>3</sup>87 Fed. Reg. 7,248 (Feb. 8, 2022).

<sup>4</sup>Pub. L. No. 116-136, div. B, § 19010, 134 Stat. 281, 579-81 (2020), and Pub. L. No. 117-2, § 4002, 135 Stat. 4, 78 (2021). We regularly issue government-wide reports on the federal response to COVID-19. For the latest report, see GAO, *COVID-19: Current and Future Federal Preparedness Requires Fixes to Improve Health Data and Address Improper Payments*, [GAO-22-105397](#) (Washington, D.C.: Apr. 27, 2022). In February 2022, Senator Pat Toomey requested to be an addressee on this review in his role as Ranking Member of the Senate Banking, Housing, and Urban Affairs Committee in the 117th Congress.

<sup>5</sup>The President's Working Group on Financial Markets was established by Executive Order 12631 and consists of the Secretary of the Treasury (who serves as its chair), the Chair of the Board of Governors of the Federal Reserve System, the Chair of the Securities and Exchange Commission, and the Chair of the Commodity Futures Trading Commission.

SEC's MMF reforms on the March 2020 runs, we conducted a literature review to identify relevant journal articles, working papers, and other studies published from March 2020 onward. Specifically, we conducted key-word searches of scholarly, legal, and other databases, including Fed in Print, Dialog, ProQuest, Social Science Research Network, and Westlaw Edge. We identified 11 articles relevant to our research objective. To assess the methodological quality of the selected studies, we obtained information about each study and about the features of the evaluation methodology.

In addition, we used data from the Office of Financial Research's U.S. Money Market Fund Monitor and the Investment Company Institute to analyze changes in MMF assets during the financial crisis and the onset of the pandemic.<sup>6</sup> We assessed the reliability of these data by (1) performing electronic testing, (2) reviewing existing information about the data and the system that produced them, and (3) interviewing agency officials knowledgeable about the data. We determined that the data were sufficiently reliable for analyzing changes in MMF assets for certain periods.

For the third objective, we reviewed SEC's proposed MMF rule, documentation SEC staff prepared about the proposed rule for the Financial Stability Oversight Council, and relevant federal agency, academic, and industry studies on MMFs. We reviewed SEC's guidance on economic analysis for rulemakings and evaluated whether SEC staff followed the guidance in conducting economic analysis for the proposed MMF rule. We also analyzed public comment letters on the proposed rule. We reviewed SEC forms that MMFs use to report information to SEC and evaluated SEC's procedures for analyzing and reporting on the information. Finally, we interviewed three industry associations (Investment Company Institute, Securities Industry and Financial Markets Association, and Better Markets) and three MMFs, which we judgmentally selected based on their involvement in the comment process and expertise. The views of the selected associations and MMFs are not generalizable and, thus, do not necessarily reflect the views of all stakeholders commenting on the proposed rule.

---

<sup>6</sup>The data source for the Office of Financial Research's U.S. Money Market Fund Monitor is SEC's Form N-MFP filings. The office receives the data directly from SEC and validates the data, conducts data quality checks, and adds other data elements to round out the information.

For all three objectives, we interviewed staff of other Financial Stability Oversight Council members—including the Department of the Treasury, Federal Reserve, Commodity Futures Trading Commission, Office of the Comptroller of the Currency, and Federal Deposit Insurance Corporation—about MMFs, including their risks and regulation.

We conducted this performance audit from November 2021 to February 2023 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

---

## Background

---

### Short-Term Funding Markets and Money Market Mutual Funds

Short-term funding markets (also called money markets) allow investors to invest generally in safe, liquid, and short-term investments and borrowers to access low-cost funds. These markets provide important financing to governments, banks, and nonfinancial corporations. As a result, their orderly functioning is essential to the performance of broader financial markets and the U.S. economy. Short-term funding instruments include the following:

- **Commercial paper.** Commercial paper is a short-term, unsecured debt instrument that a corporation issues generally to finance short-term liabilities, such as accounts receivable or inventories. Maturities are usually under 270 days.
- **Repurchase agreements and reverse repurchase agreements.** Repurchase agreements (or repos) allow one party to sell securities with a promise to buy them back later at a higher price. Reverse repurchase agreements (reverse repos) are agreements in which the buyer of the securities agrees to sell the securities back to the original owner.
- **Treasury bills.** Treasury bills are short-term securities issued by the Department of the Treasury to help finance the federal deficit. Treasury bills generally range in maturity from 4 to 52 weeks.

- **Municipal securities.** Municipal securities are debt securities issued by state and municipal governments and the special districts and statutory authorities created by those governments. Market participants generally call municipal securities short-term if they have maturities of less than 3 years or if they have features that shorten their effective maturities to less than 3 years (e.g., variable rate demand notes).<sup>7</sup>
- **Government-sponsored enterprise (agency) securities.** Agency securities are debt securities issued by government-sponsored enterprises, such as the Federal Home Loan Bank System, Federal Home Loan Mortgage Corporation, Federal National Mortgage Association, and Farm Credit System. These entities issue debt securities across a broad spectrum of maturities, including notes with maturities ranging from 1 to 360 days.

MMFs are mutual funds that invest in high-quality, short-term debt securities and pay dividends that generally reflect short-term interest rates. MMFs serve as intermediaries in the short-term funding markets, standing between investors with cash to lend and borrowers with short-term funding needs. MMFs generally are categorized based on the types of short-term instruments they purchase and include the following:

- **Prime MMFs** invest in all types of money market instruments, including short-term Treasuries and other government securities, commercial paper (including asset-backed commercial paper), repurchase agreements, and certificates of deposit.
- **Government MMFs** invest in short-term U.S. Treasury and government agency debt and repurchase agreements backed by Treasury and agency securities.
- **Tax-exempt MMFs** invest in short-term municipal securities, primarily variable rate demand notes issued by state and local governments.

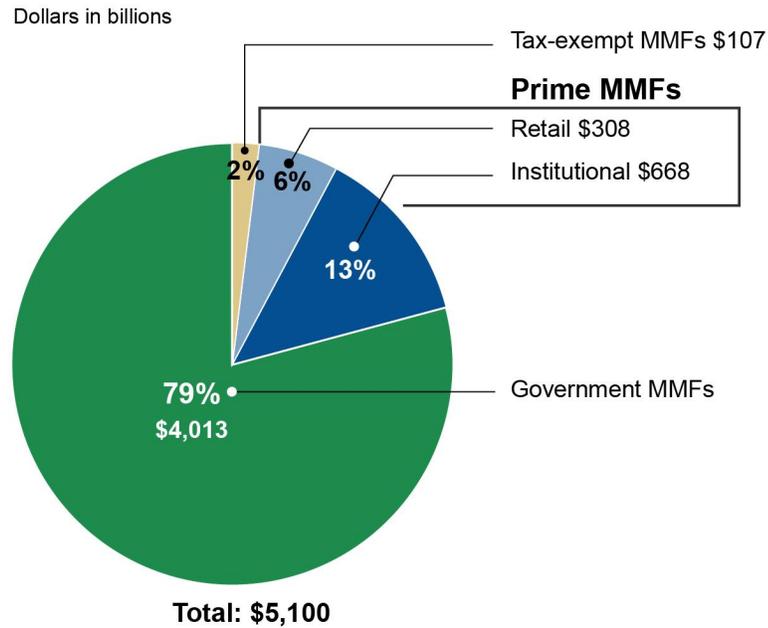
Within the prime and tax-exempt MMF categories, some funds are “retail” funds and others are “institutional” funds. Retail MMFs are held only by natural persons (individual investors). Institutional MMFs are purchased by financial firms, nonfinancial firms, and other entities.

---

<sup>7</sup>Variable rate demand notes are floating-rate municipal instruments usually with long maturities (commonly 20 or 30 years). The notes typically have an option feature that allows investors to sell back the notes at their face value with proper notice. The option feature helps these securities to be considered liquid investments and therefore eligible for purchase by MMFs.

As shown in figure 1, government MMFs accounted for 79 percent of the total assets held by MMFs as of September 30, 2022.

**Figure 1: Total Net Assets in Money Market Mutual Funds (MMF) as of September 30, 2022**



Source: GAO analysis of Securities and Exchange Commission data. | GAO-23-105535

**Accessible Data for Figure 1: Total Net Assets in Money Market Mutual Funds (MMF) as of September 30, 2022**

Tax Exempt (percent)	Retail (percent)	Institutional (percent)	Government (percent)
2	6	13	79

## Regulation and Supervision of Money Market Mutual Funds

MMFs are registered under the Investment Company Act of 1940 and regulated pursuant to Rule 2a-7 under the act. Different types of MMFs are subject to different requirements under Rule 2a-7. For example, government and retail MMFs can rely on valuation and pricing techniques that generally allow them to sell and redeem shares at a stable share price, typically \$1.00, without regard to small variations in the value of the

securities in their portfolios.<sup>8</sup> If the MMF's stable share price and market-based value per share deviate by more than one-half of 1 percent, the fund's board may determine to adjust the fund's share price below \$1.00, which is referred to as "breaking the buck." In contrast, institutional prime and tax-exempt MMFs are required to use a floating share price to sell and redeem their shares, based on the current market-based value of the securities in their underlying portfolios.

SEC oversees MMFs through various activities, including the following:

- **SEC's Division of Investment Management** develops regulatory policy for registered investment companies, recommends new rules and amendments to existing rules, reviews and comments on disclosure documents filed by registered investment companies, considers requests for exemptions from certain regulatory requirements, analyzes data about registered investment companies (including data reported by MMFs on Form N-MFP), conducts outreach to registered investment companies (including MMFs) to better understand the data or to correct filing errors, and provides legal guidance to other parts of the agency, other regulators, and market participants.
- **SEC's Division of Examinations** conducts examinations of MMFs, including their compliance with certain requirements, website disclosures, and oversight by their board of directors.
- **SEC's Division of Enforcement** conducts investigations into possible violations of federal securities laws and litigates SEC's civil enforcement proceedings in the federal courts and in administrative proceedings.
- **SEC's Division of Economic and Risk Analysis** assists SEC's rulemaking, examination, and enforcement activities. The division assists SEC's efforts to identify, analyze, and respond to issues

---

<sup>8</sup>Under the amortized cost method, a government or retail prime or tax-exempt MMF's portfolio securities generally are valued at cost plus any amortization of premium or accumulation of discount, rather than at their value based on current market factors. The penny rounding method of pricing permits such an MMF, when pricing its shares, to round its net asset value to the nearest 1 percent (i.e., the nearest penny). Together, these valuation and pricing techniques create a "rounding convention" that permits these funds to sell and redeem shares at a stable share price without regard to small variations in the value of portfolio securities. See 17 C.F.R. § 270.2a-7(c)(i), (g)(1), and (g)(2).

---

related to new financial products, investment and trading strategies, systemic risk, and fraud.

---

## Money Market Mutual Fund Vulnerability to Runs and Systemic Risk

If shareholders perceive a risk that their MMFs will suffer losses, they have an incentive to be the first to redeem their shares, largely because they could receive a higher price than shareholders who wait to redeem their shares.<sup>9</sup> For example, to meet the first round of redemptions, an MMF could use its cash and sell liquid securities to pay redeeming shareholders. However, to meet subsequent redemptions, the MMF might need to sell less liquid securities at a loss—potentially causing the MMF's portfolio to lose value to the detriment of the nonredeeming shareholders. Similarly, MMFs could suffer a loss if their portfolio securities default.<sup>10</sup> Such an event could trigger redemptions in other MMFs if shareholders do not know whether their MMFs hold such securities. MMFs are not required to hold capital to absorb daily fluctuations in the value of a fund's portfolio securities. Moreover, MMF sponsors are not required to provide financial support to cover an MMF's losses but may voluntarily do so.<sup>11</sup>

According to the Financial Stability Oversight Council, MMFs' extensive interconnectedness with financial firms, the financial system, and the U.S. economy can create a significant threat to broader financial stability because the shocks from a run on MMFs can rapidly propagate to other entities throughout the financial system.<sup>12</sup> For example, MMFs can transmit stress throughout the financial system because of their role as intermediaries, significant investors in the short-term funding markets,

---

<sup>9</sup>See, for example, the Securities and Exchange Commission, Money Market Fund Reform; Amendments to Form PF, 78 Fed. Reg. 36,834 (June 19, 2013) and the President's Working Group on Financial Markets, *Report of the President's Working Group on Financial Markets: Money Market Fund Reform Options* (October 2010).

<sup>10</sup>Rule 2a-7's credit quality standards on MMFs are designed to minimize the likelihood of a default or credit deterioration.

<sup>11</sup>Rule 17a-9 allows for discretionary support of MMFs by their sponsors and other affiliates. According to SEC, MMF sponsors voluntarily have provided financial support for their MMFs, such as to keep a fund from breaking a buck or to protect the sponsors' reputations or brands.

<sup>12</sup>Financial Stability Oversight Council, Proposed Recommendations Regarding Money Market Mutual Fund Reform (77 Fed. Reg. 69,455 (Nov. 19, 2012)).

---

potential recipients of economic support from the financial institutions that sponsor them, and important providers of cash-management services.

---

## After the 2007–2009 Financial Crisis, SEC Implemented Reforms Intended to Reduce the Vulnerability of MMFs to Runs

---

### Financial Crisis Highlighted the Vulnerability of Prime MMFs to Runs

During the 2007–2009 financial crisis, many prime MMFs experienced heavy redemptions, or runs, by their investors.<sup>13</sup> Before Lehman Brothers filed for bankruptcy on September 15, 2008, investors started to sell their shares in prime MMFs, such as to reduce their credit or liquidity risk exposure.<sup>14</sup> When Lehman Brothers filed for bankruptcy, investors continued to redeem shares at prime MMFs, particularly those funds that held Lehman Brothers debt securities (such as the Reserve Fund).<sup>15</sup> Investors increased their redemptions at prime MMFs after the Reserve Fund announced that its prime MMF's net asset value per share fell

---

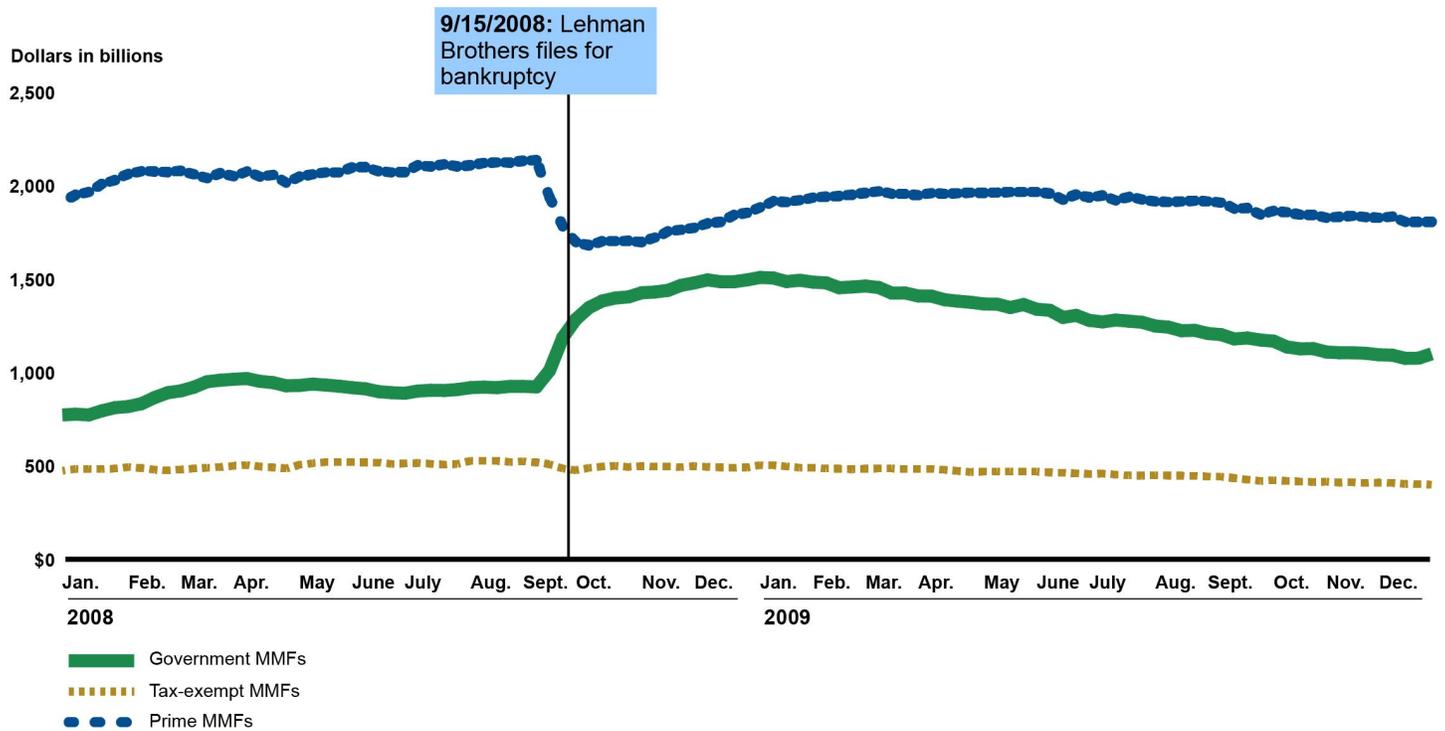
<sup>13</sup>During the financial crisis in August 2007, many MMFs that invested in asset-backed securities suffered losses from such investments but generally did not experience runs. In some cases, MMF sponsors absorbed the losses. See, for example, Patrick E. McCabe, *The Cross Section of Money Market Fund Risks and Financial Crises*, 2010-51, Finance and Economics Discussion Series (Washington, D.C.: Board of Governors of the Federal Reserve System, Sept. 12, 2010).

<sup>14</sup>According to analysis by SEC staff, investors generally shifted their investments from prime MMFs to government MMFs during the financial crisis for a number of possible reasons. For example, investors may have sought less risky or more liquid assets. See Securities and Exchange Commission, Division of Risk, Strategy, and Financial Innovation, *Response to Questions Posed by Commissioners Aguilar, Paredes and Gallagher* (Nov. 30, 2012).

<sup>15</sup>For additional information on MMF runs in September 2008, see President's Working Group on Financial Markets, *Report of the President's Working Group on Financial Markets: Money Market Fund Reform Options* (October 2010); Securities and Exchange Commission, *Response to Questions*; and Securities and Exchange Commission, *Money Market Fund Reform; Amendments to Form PF; Final Rule* (79 Fed. Reg. 47,736 (Aug. 14, 2014)).

below \$1 on September 16, 2008.<sup>16</sup> During the week of September 15, 2008, investors withdrew around \$310 billion from prime MMFs (or around 15 percent of their total assets), with institutional prime MMFs experiencing the heaviest redemptions.<sup>17</sup> As shown in figure 2, investors moved money redeemed from prime MMFs into government MMFs.

**Figure 2: Total Net Assets under Management by Government, Tax-Exempt, and Prime Money Market Mutual Funds (MMF), 2008–2009**



Source: GAO analysis of Investment Company Institute data. | GAO-23-105535

<sup>16</sup>Unlike other MMFs that held Lehman Brothers debt securities, the Reserve Fund’s prime MMF had no affiliate with sufficient resources to support a \$1 net asset value per share. In response to a request by the Reserve Fund on September 22, 2008, SEC issued an order permitting the suspension of redemptions in certain Reserve Fund mutual funds to permit their orderly liquidation. As discussed below, SEC amended its MMF regulations in 2014 to require institutional prime MMFs and institutional tax-exempt MMFs to maintain a floating net asset value per share.

<sup>17</sup>According to the October 2010 report by the President’s Working Group on Financial Markets, institutional MMFs accounted for more than 90 percent of the net redemptions from prime MMFs during the September 2008 run on MMFs.

**Accessible Data for Figure 2: Total Net Assets under Management by Government, Tax-Exempt, and Prime Money Market Mutual Funds (MMF), 2008–2009**

Date	Tax-exempt MMFs (dollars in billions)	Government MMFs (dollars in billions)	Prime MMFs (dollars in billions)
Jan. 2008	473	772	1910
Jan. 2008	482	776	1951
Jan. 2008	483	772	1965
Jan. 2008	482	794	2009
Jan. 2008	485	811	2029
Feb. 2008	493	817	2063
Feb. 2008	488	832	2077
Feb. 2008	478	865	2076
Feb. 2008	475	891	2072
Mar. 2008	480	901	2079
Mar. 2008	485	921	2060
Mar. 2008	490	950	2040
Mar. 2008	493	958	2067
Apr. 2008	500	963	2049
Apr. 2008	504	967	2076
Apr. 2008	495	952	2049
Apr. 2008	491	945	2057
Apr. 2008	485	928	2016
May 2008	505	930	2048
May 2008	514	937	2059
May 2008	519	932	2071
May 2008	519	926	2070
June 2008	519	918	2097
June 2008	518	912	2099
June 2008	517	897	2077
June 2008	510	891	2071
July 2008	512	888	2072
July 2008	515	900	2108
July 2008	510	904	2102
July 2008	507	903	2113
July 2008	509	908	2102
Aug. 2008	527	918	2109
Aug. 2008	526	921	2120

Letter

<b>Date</b>	<b>Tax-exempt MMFs (dollars in billions)</b>	<b>Government MMFs (dollars in billions)</b>	<b>Prime MMFs (dollars in billions)</b>
Aug. 2008	526	918	2124
Aug. 2008	519	925	2123
Sept. 2008	524	925	2133
Sept. 2008	518	922	2136
Sept. 2008	508	1010	1938
Sept. 2008	485	1186	1782
Oct. 2008	476	1284	1697
Oct. 2008	488	1347	1681
Oct. 2008	495	1382	1702
Oct. 2008	499	1398	1702
Oct. 2008	494	1404	1704
Nov. 2008	498	1426	1698
Nov. 2008	495	1430	1721
Nov. 2008	496	1439	1754
Nov. 2008	492	1466	1763
Dec. 2008	498	1479	1774
Dec. 2008	494	1495	1798
Dec. 2008	491	1485	1806
Dec. 2008	490	1485	1842
Dec. 2008	491	1495	1854
Jan. 2009	504	1508	1884
Jan. 2009	502	1505	1916
Jan. 2009	497	1486	1911
Jan. 2009	490	1493	1922
Feb. 2009	490	1483	1935
Feb. 2009	485	1479	1940
Feb. 2009	484	1453	1944
Feb. 2009	481	1457	1951
Mar. 2009	484	1462	1961
Mar. 2009	485	1454	1969
Mar. 2009	485	1424	1956
Mar. 2009	482	1425	1955
Apr. 2009	482	1409	1948
Apr. 2009	483	1408	1960
Apr. 2009	478	1389	1956
Apr. 2009	472	1381	1959

Letter

<b>Date</b>	<b>Tax-exempt MMFs (dollars in billions)</b>	<b>Government MMFs (dollars in billions)</b>	<b>Prime MMFs (dollars in billions)</b>
Apr. 2009	467	1375	1962
May 2009	468	1366	1961
May 2009	469	1365	1963
May 2009	469	1347	1965
May 2009	468	1363	1965
June 2009	468	1338	1965
June 2009	464	1332	1958
June 2009	463	1294	1925
June 2009	459	1305	1952
July 2009	456	1278	1937
July 2009	458	1270	1947
July 2009	452	1280	1921
July 2009	448	1274	1940
July 2009	447	1268	1926
Aug. 2009	449	1248	1915
Aug. 2009	447	1242	1912
Aug. 2009	447	1223	1915
Aug. 2009	445	1225	1919
Sept. 2009	443	1208	1916
Sept. 2009	441	1202	1909
Sept. 2009	434	1179	1877
Sept. 2009	426	1184	1879
Sept. 2009	419	1173	1845
Oct. 2009	422	1167	1864
Oct. 2009	419	1136	1857
Oct. 2009	416	1126	1844
Oct. 2009	413	1127	1843
Nov. 2009	414	1109	1828
Nov. 2009	410	1105	1833
Nov. 2009	411	1105	1837
Nov. 2009	408	1102	1831
Dec. 2009	410	1094	1828
Dec. 2009	408	1092	1834
Dec. 2009	403	1075	1806
Dec. 2009	401	1076	1805
Dec. 2009	399	1099	1806

Investor runs in September 2008 led MMFs to sell or not purchase certain short-term instruments, which caused further stress in the financial markets. Following the Lehman Brothers bankruptcy and related events, prime MMFs generally reduced their holdings of commercial paper or retained cash rather than purchasing commercial paper, certificates of deposit, and other short-term instruments. As MMFs and other market participants retained cash and refused to lend, certain short-term funding markets experienced severe disruptions—impairing access to short-term credit.

On September 19, 2008, the Federal Reserve and Treasury announced two programs to support MMFs facing redemptions and provide liquidity to short-term funding markets.<sup>18</sup>

- **The Federal Reserve’s Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility** extended credit to eligible banks and their primary dealer affiliates to finance their purchases of highly rated asset-backed commercial paper from MMFs.<sup>19</sup> The Federal Reserve was concerned that stress in the asset-backed commercial paper market would be exacerbated if MMFs chose to sell assets at a discount or reduce their purchases of such securities to meet redemptions. The facility became operational on September 22, 2008. It initially was set to expire on January 30, 2009, but expired on February 1, 2010, after the Federal Reserve extended the facility three times to address continuing strains in financial markets.
- **Treasury’s Temporary Guarantee Program for Money Market Funds** temporarily guaranteed certain investments in MMFs that decided to participate in the program. Participating MMFs were required to agree to liquidate and suspend shareholder redemptions if their share price fell below \$1. In return, their shareholders would receive the stable share price of \$1 for each fund share owned as of September 19, 2008. The program became operational on September 29, 2008, and had an initial 3-month term. The Treasury Secretary

---

<sup>18</sup>In October 2008, the Federal Reserve also established the Commercial Paper Funding Facility to provide loans for purchases of term commercial paper from issuers. The facility helped issuers repay investors—such as MMFs—that held maturing paper. It expired on February 1, 2010. In October 2008, the Federal Reserve also announced the Money Market Investor Funding Facility, which was intended to bolster liquidity for MMFs by financing purchases of securities from the funds. The facility was never used and expired on October 30, 2009.

<sup>19</sup>For additional information, see GAO, *Federal Reserve System: Opportunities Exist to Strengthen Policies and Processes for Managing Emergency Assistance*, [GAO-11-696](#) (Washington, D.C.: July 21, 2011).

---

extended the program until September 18, 2009. Most money market funds elected to participate in the program.

The announcements of the Federal Reserve and Treasury programs slowed redemptions at prime MMFs. Prime MMFs experienced a decrease in fund outflows the week after the announcements and a net inflow of funds by mid-October 2008. In addition, markets for commercial paper and other short-term debt instruments stabilized in the weeks following the announcements.

---

### SEC Implemented MMF Reforms in 2010 and 2014 to Mitigate Runs

In 2010, SEC amended its regulations with the intent to make MMFs more resilient to certain short-term market risks and to provide greater protections to investors in MMFs unable to maintain a stable net asset value per share.<sup>20</sup> The 2010 rule amendments include the following:

- **Risk limits.** The amendments serve to decrease the credit risk exposure of MMFs by further restricting the amount of lower-quality securities they can hold. The amendments also require MMFs to maintain specified minimum levels of daily and weekly liquid assets, in part to help them meet heavy redemptions during times of market stress. The amendments also serve to reduce the exposure of MMFs to interest-rate risk by decreasing the maximum weighted average maturities of fund portfolios.
- **Stress testing.** The amendments require MMFs to periodically undergo stress tests under the direction of their board of directors. Under this requirement, MMFs must periodically test their ability to maintain a stable net asset value per share based on certain hypothetical events, including an increase in short-term interest rates, an increase in shareholder redemptions, and a downgrade of or default on portfolio securities.
- **Disclosure.** The amendments require MMFs to post monthly on their websites information about their portfolio holdings and report monthly to SEC more detailed information about their portfolio holdings. This information is designed to give investors a better understanding of risk exposures of MMFs and enhance SEC's oversight of MMFs' ability to respond to market events.

---

<sup>20</sup>75 Fed. Reg. 10,060 (Mar. 4, 2010).

In 2014, SEC further amended its MMF regulations to make structural and operational reforms to MMFs.<sup>21</sup> The amendments were designed to address MMFs' susceptibility to heavy redemptions in times of stress, improve their ability to manage and mitigate potential contagion from such redemptions, and increase the transparency of their risks, while preserving, as much as possible, their benefits. The amendments included the following:

- **Liquidity fees and redemption gates.** The amendments provide the boards of directors of prime and tax-exempt MMFs with the discretion to help stem heavy redemptions by imposing a liquidity fee (up to 2 percent of the value of the shares redeemed) or temporary suspension of redemptions—known as a “gate”—if a fund's weekly liquid assets fall below 30 percent of its total assets. The amendments also require such MMFs to impose a 1 percent liquidity fee if the fund's weekly liquid assets fall below 10 percent unless the fund's board determines that imposing such a fee is not in the fund's best interests.
- **Floating net asset value.** The amendments require institutional prime and tax-exempt MMFs to transact at a floating instead of stable (e.g., \$1) net asset value per share. In contrast, SEC continued to permit retail MMFs to transact at a stable net asset value per share, in part because retail investors had been less likely than institutional investors to act on the incentive to redeem shares when their fund experienced a decline in its net asset value.
- **Stress testing.** The amendments revised the stress testing provisions to require MMFs periodically to test their ability to maintain weekly liquid assets of at least 10 percent and to minimize principal volatility in response to specified hypothetical events.
- **Disclosure.** The amendments require MMFs to post on their website daily information about their portfolio holdings, including their levels of daily and weekly liquid assets.

---

<sup>21</sup>79 Fed. Reg. 47,736 (Aug. 14, 2014). SEC undertook the reforms partly in consideration of the Financial Stability Oversight Council's proposed recommendations to reform MMFs. Specifically, in 2012 and pursuant to Section 120 of the Dodd-Frank Wall Street Reform and Consumer Protection Act, the council sought public comment on proposed recommendations that it might make to SEC to implement structural reforms for MMFs to reduce the risk of runs and significant problems spreading through the financial system (see 77 Fed. Reg. 69,455 (Nov. 19, 2012)).

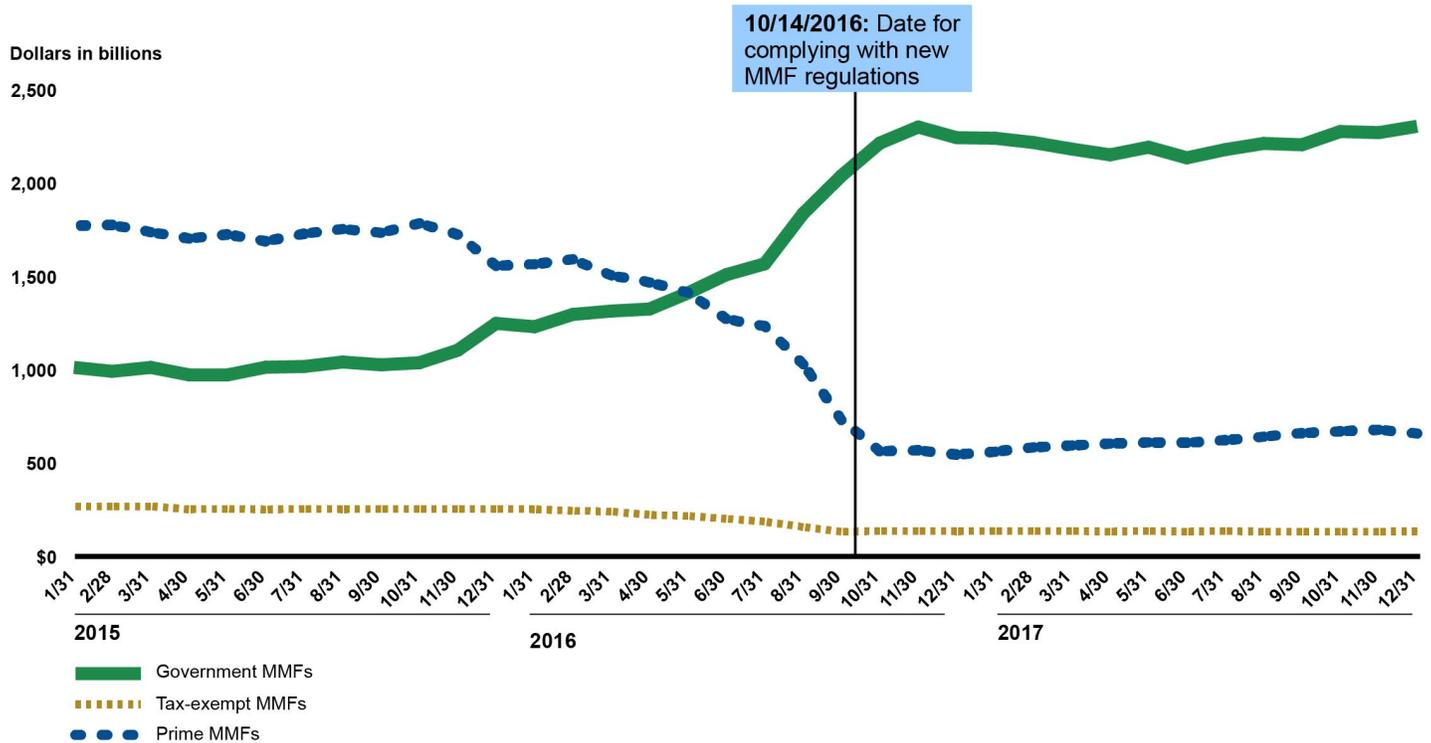
**Government Money Market Mutual Funds (MMF)**

As we reported in December 2019, the Securities and Exchange Commission's MMF reforms that took effect in 2016 resulted in a significant increase in the MMF sector's holdings of Treasury securities. As of June 2019, MMFs represented one of the largest shares of Treasury securities holdings among domestic investors, holding approximately 8 percent (around \$743 billion) of the domestic total (excluding the Federal Reserve).

Source: GAO. | GAO-23-105535

Under SEC's 2014 reforms, institutional prime and tax-exempt MMFs had until October 2016 to comply with the new floating net asset value. MMFs other than government MMFs also had until October 2016 to comply with the liquidity fees and redemption gates amendment. As shown in figure 3, total investments in prime MMFs declined before the compliance date, while total investments in government MMFs increased. Some stakeholders attributed the shift to the requirement that institutional prime and tax-exempt MMFs maintain a floating net asset value, which could subject shareholders to taxable gains or losses. For example, between April 30, 2016, and October 31, 2016, total investments of institutional prime MMFs declined by 75 percent, but total investments of retail prime MMFs increased by 46 percent. As discussed above, retail MMFs were permitted to continue to maintain a stable net asset value per share.

**Figure 3: Investments in U.S. Money Market Mutual Funds (MMF), by Type, 2015–2017**



Source: GAO analysis of Securities and Exchange Commission data. | GAO-23-105535

**Accessible Data for Figure 3: Investments in U.S. Money Market Mutual Funds (MMF), by Type, 2015–2017**

<b>Date</b>	<b>Tax-exempt MMFs (dollars in billions)</b>	<b>Government MMFs (dollars in billions)</b>	<b>Prime MMFs (dollars in billions)</b>
1/31 (2015)	267	1012	1771
2/28 (2015)	267	991	1775
3/31 (2015)	268	1012	1737
4/30 (2015)	252	972	1703
5/31 (2015)	254	972	1725
6/30 (2015)	251	1013	1688
7/31 (2015)	254	1017	1728
8/31 (2015)	252	1041	1753
9/30 (2015)	253	1026	1734
10/31 (2015)	254	1037	1785
11/30 (2015)	253	1104	1724
12/31 (2015)	254	1248	1556
1/31 (2016)	252	1230	1565
2/28 (2016)	244	1296	1591
3/31 (2016)	240	1314	1505
4/30 (2016)	222	1325	1468
5/31 (2016)	216	1411	1413
6/30 (2016)	201	1509	1272
7/31 (2016)	186	1567	1233
8/31 (2016)	157	1836	1030
9/30 (2016)	132	2039	731
10/31 (2016)	135	2214	563
11/30 (2016)	136	2300	568
12/31 (2016)	134	2243	545
1/31 (2017)	135	2240	561
2/28 (2017)	135	2217	584
3/31 (2017)	135	2182	594
4/30 (2017)	133	2151	604
5/31 (2017)	135	2192	610
6/30 (2017)	133	2135	609
7/31 (2017)	135	2179	622
8/31 (2017)	133	2212	641
9/30 (2017)	132	2205	660
10/31 (2017)	132	2276	670
11/30 (2017)	133	2270	678

Date	Tax-exempt MMFs (dollars in billions)	Government MMFs (dollars in billions)	Prime MMFs (dollars in billions)
12/31 (2017)	134	2304	658

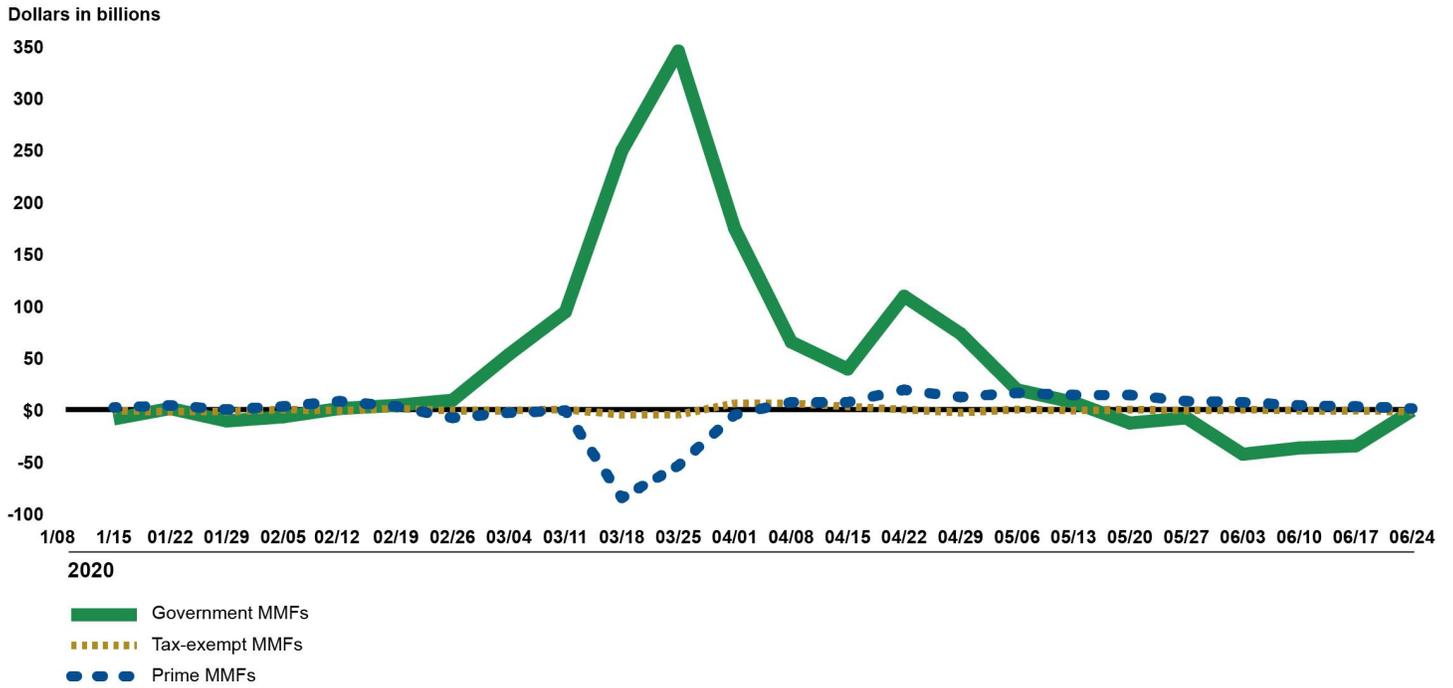
## SEC’s Prior MMF Reforms Did Not Prevent Runs during the COVID-19 Pandemic

### Prime MMFs Experienced Runs at the Onset of the Pandemic

When conditions in certain short-term funding markets deteriorated at the start of the COVID-19 pandemic, investors heavily redeemed their shares in prime and tax-exempt MMFs. Publicly offered institutional prime MMFs experienced about \$100 billion in net redemptions (or 30 percent of their total assets) during mid to late March 2020, according to available data.<sup>22</sup> Around the same period, retail prime MMFs experienced about \$40 billion in net redemptions (or 9 percent of their total assets), and tax-exempt MMFs experienced about \$11 billion in net redemptions (or 8 percent of their total assets). In contrast, government MMFs increased their total assets by about \$840 billion to \$3.6 trillion (or by around 30 percent) in March 2020, partly because investors sought more liquid or higher-quality securities. Figure 4 shows the changes in total net assets of government, prime, and tax-exempt MMFs from January through June 2020.

<sup>22</sup>President’s Working Group on Financial Markets, *Report of the President’s Working Group on Financial Markets: Overview of Recent Events and Potential Reform Options for Money Market Funds* (December 2020). For similar reports on MMFs during the pandemic, see Securities and Exchange Commission, Division of Economic and Risk Analysis, *U.S. Credit Markets: Interconnectedness and the Effects of the COVID-19 Economic Shock* (October 2020) and Financial Stability Oversight Council, *2020 Annual Report*. According to SEC staff, institutional prime MMFs can be divided into publicly offered funds and funds that are not offered to the public. The latter type are used mainly for internal cash management needs, and there were seven such MMFs in February 2020.

Figure 4: Change in Total Net Assets of Money Market Mutual Funds (MMF), January–June 2020



Source: GAO analysis of Investment Company Institute data. | GAO-23-105535

**Accessible Data for Figure 4: Change in Total Net Assets of Money Market Mutual Funds (MMF), January–June 2020**

Date	Tax-exempt MMFs (dollars in billions)	Government MMFs (dollars in billions)	Prime MMFs (dollars in billions)
1/08			
1/15	-1	-9	2
01/22	-2	1	4
01/29	-2	-11	0
02/05	0	-7	3
02/12	-1	1	8
02/19	1	4	3
02/26	-1	9	-8
03/04	-1	53	-3
03/11	0	94	-1
03/18	-5	249	-85
03/25	-5	345	-54
04/01	6	174	-5
04/08	6	65	7
04/15	3	39	7
04/22	0	109	19
04/29	-3	73	12
05/06	0	19	16
05/13	-1	7	14
05/20	0	-13	14
05/27	-1	-8	8
06/03	0	-43	7
06/10	-1	-37	4
06/17	-1	-35	3
06/24	-2	-1	1

SEC and other stakeholders identified the 2014 MMF reforms and other factors as potentially contributing to the runs at MMFs at the start of the pandemic. As discussed earlier, SEC allowed prime and tax-exempt MMFs to impose liquidity fees or temporary redemption gates if the level of their weekly liquid assets fell below 30 percent. When some prime MMFs experienced heavy redemptions, their weekly liquid asset levels

---

approached the threshold.<sup>23</sup> Some evidence indicates that some investors preemptively redeemed MMF shares to avoid the possibility of incurring a liquidity fee or losing access to their funds under a redemption gate.<sup>24</sup>

Specifically, according to SEC's proposed rule release, even though no MMF imposed a fee or gate in March 2020, the possibility of such action appears to have contributed to incentives for investors to redeem their MMF shares, based on the available evidence. The potential imposition of fees or gates also created incentives for MMFs to maintain weekly liquid asset levels above the threshold, rather than use those liquid assets to meet redemptions. Similarly, according to the Investment Company Institute (an association representing regulated investment funds), some of its member firms reported that as some institutional MMFs approached their weekly liquid asset threshold in mid-March, the potential imposition of fees or gates created uncertainty and increased pressure for institutional investors to redeem.

Other factors that may have caused investors to redeem MMF shares include their concerns about declining MMF liquidity, preference for more liquid assets in light of economic uncertainty, or need for cash to meet routine expenses.

---

### Federal Reserve Established an MMF Liquidity Facility, in Part to Help Stop Runs

With the approval of the Treasury Secretary, the Federal Reserve authorized the Money Market Mutual Fund Liquidity Facility on March 18, 2020, to help meet MMF redemptions and thereby stop runs. The facility began to operate on March 23, 2020. In combination with other programs, the facility served to stabilize the U.S. financial system by allowing MMFs to raise cash to meet redemptions and to foster liquidity in the short-term

---

<sup>23</sup>According to SEC in its preamble to the proposed Money Market Reforms rule, only one MMF's level of weekly liquid assets fell below 30 percent in March 2020, and no MMFs imposed liquidity fees or temporary redemption gates. Money Market Reforms, 87 Fed. Reg. 7248, 7253 (Feb. 8, 2022).

<sup>24</sup>See, for example, Securities and Exchange Commission, Money Market Reforms, 87 Fed. Reg. 7248 (Feb. 8, 2022); Kenekwue Anadu et al., *The Money Market Mutual Fund Liquidity Facility*, Federal Reserve Bank of New York Staff Reports, no. 980 (September 2021); and Investment Company Institute, *Report of the COVID-19 Market Impact Working Group: Experiences of U.S. Money Market Funds during the COVID-19 Crisis* (Washington, D.C.: November 2020).

funding markets for assets held by MMFs.<sup>25</sup> The facility provided nonrecourse loans to U.S. depository institutions and bank holding companies to finance their purchases of specified eligible assets from prime and tax-exempt MMFs under certain conditions.<sup>26</sup>

Redemptions at prime and tax-exempt MMFs declined considerably after the Federal Reserve established the Money Market Mutual Fund Liquidity Facility (along with other programs and actions to support short-term funding markets). According to a staff report by the Federal Reserve Bank of New York, the facility extended loans to nine banks and bank holding companies, which purchased around \$58 billion in assets from 47 prime MMFs by the last transaction in late April 2020.<sup>27</sup> In addition, the staff report found that MMFs that experienced heavier redemptions were more likely to use the facility, and prime funds sold their more illiquid assets and boosted their liquidity levels.

---

## Stakeholders Had Mixed Views on the Effects of MMF Runs on Short-Term Funding Markets

Research we reviewed presented mixed views on the effect of runs at MMFs on certain short-term funding markets at the start of the COVID-19 pandemic. According to the Financial Stability Oversight Council, MMFs' size, scale, and concentration increase both their vulnerability to runs and

---

<sup>25</sup>According to the President's Working Group on Financial Markets, the Money Market Mutual Fund Liquidity Facility would not have worked in isolation, and other programs and monetary policy responses would not have worked as well without the facility. For information on other Federal Reserve lending programs to ensure the flow of credit during the COVID-19 pandemic, see GAO, *Federal Reserve Lending Programs: Credit Markets Served by the Programs Have Stabilized, but Vulnerabilities Remain*, [GAO-22-104640](#) (Washington, D.C.: Oct. 19, 2021).

<sup>26</sup>According to a staff report by the Federal Reserve Bank of New York, lending to MMFs was problematic because it would have increased fund leverage, thereby amplifying any losses for fund shareholders and increasing shareholders' incentive to redeem MMF shares. Through the Money Market Mutual Fund Liquidity Facility, the Federal Reserve Bank of Boston made nonrecourse loans to U.S. banks and other eligible borrowers. The Federal Reserve, the Office of the Comptroller of the Currency, and the Federal Deposit Insurance Corporation allowed banks to neutralize the effects of participating in the facility on their risk-based and leverage capital ratios by excluding the effects of buying assets through the facility from the calculation of regulatory capital requirements. They also issued an interim final rule that neutralized the impact of the nonrecourse funding provided by the facility on the calculation of banks' liquidity coverage ratios. See Anadu et al., *The Money Market Mutual Fund Liquidity Facility*.

<sup>27</sup>See Anadu et al., *The Money Market Mutual Fund Liquidity Facility*.

the damaging impact of runs on short-term credit markets, borrowers, and investors.<sup>28</sup> For example, runs could cause MMFs to purchase less commercial paper or other short-term assets—making it more difficult for businesses to obtain capital. Runs also could cause MMFs to sell assets at discounted prices when markets are illiquid—putting additional downward pressure on asset prices.

Some research we reviewed found that runs at MMFs in March 2020 were driven by deteriorating conditions in certain short-term funding markets but that the runs likely added to the stress in these markets. For example, the President’s Working Group on Financial Markets and SEC found that deteriorating conditions in certain short-term funding markets, such as commercial paper, in the second week of March 2020 contributed to pricing pressure and redemptions for MMFs. In turn, MMFs sold commercial paper and municipal securities in response to the redemptions, which likely contributed to stress in those short-term funding markets.<sup>29</sup> The working group also found that MMFs with weekly liquid asset levels near the 30 percent threshold likely were reluctant to purchase commercial paper with maturities greater than a week to avoid crossing the threshold.

Other research we reviewed generally found that the runs at MMFs in March 2020 were not the primary cause of the disruptions in certain short-term funding markets or that they had a limited impact on such markets. For example, the Investment Company Institute found that two measures of stress in the U.S. Treasury bond and interbank lending markets became elevated before MMFs experienced redemptions; thus, prime MMFs could not have triggered the stress.<sup>30</sup>

---

<sup>28</sup>See 77 Fed. Reg. 69,455 (Nov. 19, 2012).

<sup>29</sup>See Securities and Exchange Commission, *U.S. Credit Markets*; the President’s Working Group on Financial Markets, *Overview of Recent Events and Potential Reform Options for Money Market Funds*; and 87 Fed. Reg. 7,248 (Feb. 8, 2022).

<sup>30</sup>The Investment Company Institute used the bid-ask spread on off-the-run Treasuries as a measure of stress in the Treasury bond market and the spread between the 3-month London Interbank Offered Rate and the federal funds rate as a measure of stress in the interbank lending market. Investment Company Institute, *Report of the COVID-19 Market Impact Working Group*.

The institute also found that MMFs did not cause the commercial paper market to freeze in March 2020.<sup>31</sup> First, MMFs reduced their commercial paper holdings by pledging the majority of the assets to the Federal Reserve's liquidity facility, which did not affect the secondary market. Second, the amount of commercial paper that MMFs sold in the secondary market represented a small percentage of the decline in outstanding commercial paper during the period. Similarly, a report by the Committee on Capital Markets Regulation found that disruptions in certain short-term funding markets occurred before the runs on prime MMFs; thus, prime MMFs could not have caused the disruptions.<sup>32</sup> The report also found that prime MMFs sold commercial paper to meet redemptions but that the amount of the sales was unlikely to have been the primary cause of stresses in commercial paper market.<sup>33</sup>

---

## SEC Has Proposed MMF Reforms Intended to Reduce Run Risk

---

### Stakeholder Views Differ on Whether SEC's Proposed MMF Reforms Might Reduce Run Risk

To help reduce run risk at MMFs, in February 2022 SEC proposed amending its regulations to remove the liquidity fees and redemption gates adopted in 2014, increase the liquidity requirements adopted in 2010, and adopt a new swing pricing requirement.<sup>34</sup>

- **Removal of liquidity fees and redemption gates.** SEC was concerned that gates may not stem heavy redemptions from MMFs in times of stress. As discussed above, the potential imposition of gates appeared to contribute to the heavy redemptions that occurred in

---

<sup>31</sup>Shelly Antoniewicz, Investment Company Institute, *Viewpoints: On Closer Look, a Very Different Picture of Funds' Role in the Commercial Paper Market* (Apr. 21, 2021).

<sup>32</sup>Committee on Financial Markets Regulation, *Money Market Funds and the 2020 COVID Crisis* (May 2021).

<sup>33</sup>According to the Office of Financial Research, other investment funds that serve purposes similar to those of MMFs also experienced heavy outflows, contributing to the stress in the funding markets in March 2020. These funds included dollar-denominated off-shore prime funds, some private liquidity funds, and ultra-short corporate bond mutual funds. See Office of Financial Research, *Annual Report to Congress 2021* (Washington D.C.: Nov. 17, 2021).

<sup>34</sup>87 Fed. Reg. 7,248 (Feb. 8, 2022).

March 2020. Generally, MMF investors are sensitive to not being able to access their funds for a period. SEC stated that investors have a tendency to redeem shares preemptively if they fear a gate may be imposed. SEC also stated that it did not believe a liquidity fee would be imposed in a timely manner if a fund were to have net redemptions. SEC noted that no MMF imposed liquidity fees in March 2020, even though many institutional prime and tax-exempt funds were experiencing significant outflows and some MMFs were selling portfolio holdings to meet redemptions, sometimes at a significant loss. SEC stated that this was, in part, due to the design of the current rule, given that only one institutional prime fund had weekly liquid assets below the 30 percent threshold and could have therefore imposed a liquidity fee.

- **Increased liquidity requirements.** As noted above, MMFs are required to maintain specified minimum levels of daily and weekly liquid assets. The proposed MMF reforms would increase the minimum daily liquid asset level from 10 percent to 25 percent and the weekly liquid asset level from 30 percent to 50 percent. SEC stated it believes the proposed levels would be sufficiently high to allow most MMFs to manage their liquidity risk in a market crisis without raising investor concerns that MMFs would rapidly run out of liquid assets. SEC found that data indicated that before March 2020, prime MMFs maintained average daily and weekly liquid asset levels that were generally consistent with the proposed thresholds. MMFs would be permitted to fall below the minimums but would be required to purchase only daily and weekly liquid assets until their levels reached the minimums.
- **Adoption of swing pricing.** SEC's swing pricing proposal would require institutional prime and institutional tax-exempt MMFs to adjust their net asset values per share down when they experience net redemptions. Swing pricing is used to allocate redemption costs on redeeming investors—the net asset value adjustment prevents the remaining investors from bearing all the costs caused by redeeming investors. Variations of swing pricing are authorized by SEC for use by non-money market mutual funds in the U.S. and a similar swing pricing process is available to non-money market funds in Europe.

Table 1 summarizes the characteristics of the swing pricing and increased liquidity requirements in SEC's proposed MMF reforms.

**Table 1: Characteristics of Swing Pricing and Increased Liquidity Requirements in the Securities and Exchange Commission’s Proposed MMF Reforms**

	<b>Swing pricing</b>	<b>Increased liquidity requirements</b>
Requirement	If a money market mutual fund (MMF) has net redemptions for the period, the MMF must decrease its share price to reflect certain costs of selling a portion of each security in the fund’s portfolio (called the swing factor). In addition, if net redemptions are greater than 4 percent of the fund’s net asset value divided by the number of pricing periods per day (or such smaller amount of net redemptions as the MMF determines), the MMF must further decrease its share price to reflect an estimate of the market impact of selling a portion of each security in the fund’s portfolio (called the market impact factor).	MMFs would be required to hold at least 25 percent of their total assets in daily liquid assets and at least 50 percent of their total assets in weekly liquid assets. Assets that make up daily liquid assets and weekly liquid assets are cash or securities that can readily be converted to cash within 1 business day or 5 business days, respectively.
Covered MMFs	Institutional prime MMFs and institutional tax-exempt MMFs	Government MMFs and institutional and retail prime MMFs would be subject to the daily liquid asset minimum.  All types of MMFs would be subject to the weekly liquid asset minimum.
Justification	The proposal is designed to ensure that the costs stemming from net redemptions are fairly allocated between redeeming and nonredeeming shareholders and do not give rise to a first-mover advantage or dilution of the fund’s net asset value under either normal or stressed market conditions.	The proposal is designed to support the ability of MMFs to meet redemptions from cash or securities convertible to cash.
Primary potential benefits	Swing pricing may reduce the first-mover advantage and, thus, the risk of runs.  The value of the shares of nonredeeming investors may not be reduced because of net redemptions.  Reducing run risk in MMFs may enhance their resilience and reduce the risk that MMFs may rely on government backstops.	The proposal may reduce the risk of runs.  The proposal could protect investors by enhancing the ability of MMFs to meet large redemptions from cash or securities convertible to cash even in challenging market conditions.  The proposal may reduce the negative effect of redemptions on the short-term funding markets during times of stress.  Reducing run risk in MMFs may enhance their resilience and reduce the risk that MMFs may rely on government backstops.

	Swing pricing	Increased liquidity requirements
Primary potential costs	<p>Investor demand for institutional MMFs may decrease because the variability of funds' prices may increase.</p> <p>MMFs will incur costs associated with establishing swing pricing policies and procedures, reporting, and recordkeeping.</p> <p>Redeeming investors will incur trading and related costs and, thus, receive a lower share price than they otherwise would have received if swing pricing were not in effect.</p> <p>If the proposal reduces investor demand in some MMFs, it would lead to a decrease in assets under management of these MMFs, potentially reducing the wholesale funding liquidity they provide to other market participants.</p>	<p>The proposal could reduce investor demand for MMFs because increased liquid assets could lower MMF yields.</p> <p>If the proposal reduces investor demand in some MMFs, it would lead to a decrease in assets under management of these MMFs, potentially reducing the wholesale funding liquidity they provide to other market participants.</p> <p>The proposal may reduce demand for short-term funding instruments from MMFs, and thus cause liquidity in short-term funding markets to flow to leveraged market participants, such as hedge funds, which could result in concentration of risk-taking among such entities.</p>

Source: GAO analysis of 87 Fed. Reg. 7,248 (Feb. 8, 2022). | GAO-23-105535

In the proposed rule amendments, SEC proposed to require swing pricing in addition to increased liquidity requirements because there may still be incentives for institutional MMFs to sell illiquid assets to meet redemptions. Such incentives could include the desire to maintain a substantial buffer of liquid assets, or MMFs may otherwise need to sell illiquid assets in a stressed period. SEC stated that swing pricing could help institutional MMFs equitably allocate costs from such redemptions among shareholders. In addition, swing pricing could reduce other market externalities not countered by increased liquidity requirements, liquidity fees, and redemption gates. These externalities include dilution costs, falling asset prices, and potential differences between a fund's net asset value and execution prices.

MMFs, academics, industry associations, and other stakeholders commenting on SEC's proposed MMF reforms had differing views.<sup>35</sup> Stakeholders generally supported removing the link between redemption gates and fees and minimum liquid asset thresholds to reduce run risk. A few stakeholders maintained that the proposal's swing pricing requirement could reduce run risk. MMFs and many industry associations opposed swing pricing, and urged SEC to allow MMFs to retain the discretion to apply liquidity fees. Stakeholders generally expressed

<sup>35</sup>Our description of stakeholders' public comments on the proposed rule is a high-level summary and does not represent the entire range of comments SEC received.

concern about the operational complexity and cost of swing pricing for MMFs.<sup>36</sup>

Stakeholders that commented generally supported increasing liquidity requirements, but many MMFs and industry associations expressed concerns that the proposed requirements were too high. For example, some academics supported the proposal's higher liquidity requirements, commenting that they would have reduced, but not eliminated, the risk of funds having to sell illiquid assets to meet redemptions in March 2020. A professional organization commented that the proposed reform would very likely make prime and tax-exempt MMFs more resilient against heavy redemptions. However, the organization also raised concerns that the reform could increase the homogeneity of MMF holdings and suggested liquidity requirements lower than what SEC proposed but higher than current levels. An industry association also commented that increased liquidity requirements, along with the removal of liquidity fees and redemption gates, could improve the resiliency of MMFs, but suggested lower liquidity requirements.

A few stakeholders commented that the proposed reforms do not go far enough to reduce run risk and avoid future government support of MMFs. An industry association and several academics commented that prime MMFs provide banking-like services by engaging in risk, maturity, and liquidity transformation and thus function like banks. Specifically, they advocated for imposing some form of minimum capital requirements to provide investor protection and reduce excessive risk-taking by prime MMFs. In addition, the organization and some academics advocated for strengthening MMF stress testing, including public disclosure of the results.

The comment period for SEC's proposed MMF rule amendments ended on April 11, 2022, but SEC reopened the comment period until November 1, 2022, because of a technological error with SEC's electronic commenting system. SEC's most recent Regulatory Flexibility Agenda lists a final action date of April 2023.

---

<sup>36</sup>As SEC noted in the proposed rule, some MMFs calculate their net asset value multiple times per day and would thus be required to determine whether net redemptions occurred multiple times per day.

---

## SEC's Economic Analysis of the Proposed Rule Followed Guidance and Was Largely Qualitative

We found that SEC staff followed its Current Guidance on Economic Analysis in SEC Rulemakings (economic analysis guidance) in conducting the economic analysis supporting the proposed MMF rulemaking.<sup>37</sup> Specifically, SEC discussed (1) the need for the proposed regulation; (2) the baseline against which to measure the likely economic consequences of the proposed regulation; (3) alternative regulatory approaches; and (4) the benefits and costs of the proposed regulation.

In its discussion of the benefits and costs, SEC noted that much of the analysis is qualitative because it lacked the data to quantify many of the benefits and costs.<sup>38</sup> For example, SEC stated that it lacked data to quantify

- the number of funds that had to sell less liquid holdings during March 2020,
- how funds may adjust the liquidity of their portfolios in response to the proposed liquidity thresholds,
- the extent to which investors may reduce their holdings in MMFs as a result of the proposed swing pricing requirement,
- the extent to which investors may move capital from institutional prime MMFs to government MMFs, and
- the reductions in dilution costs to investors as a result of the proposed amendments.

Consistent with its economic analysis guidance, SEC staff included an explanation as to why certain relevant benefits and costs could not be quantified and a qualitative analysis of the likely economic consequences of the proposed rule and reasonable regulatory alternatives. In contrast,

---

<sup>37</sup>In 2012, SEC's Division of Risk, Strategy, and Financial Innovation and Office of the General Counsel issued guidance on economic analysis in SEC rulemakings. Although SEC as an independent regulatory agency is not obligated to follow the guidelines for regulatory economic analysis by executive agencies set out in Executive Order 12866 (Regulatory Planning and Review) and Executive Order 13563 (Improving Regulation and Regulatory Review), SEC guidance draws on principles set forth in those orders and in the Office of Management and Budget's Circular A-4 (2003), which provides guidance for implementing Executive Order 12866.

<sup>38</sup>We also found that the economic analysis for the 2014 rule was largely qualitative. See 79 Fed. Reg. 47,736 (Aug. 14, 2014).

---

some stakeholders raised concerns about the adequacy of SEC's economic analysis, such as the lack of data or analysis to support the proposed reforms or substantiate their benefits.

---

## SEC Has Proposed Collecting Additional Data to Monitor MMFs

To improve its ability to monitor MMFs, SEC also has proposed amending its Form N-MFP to require MMFs to report additional data. Form N-MFP is a public reporting form that MMFs must file monthly to report information about their portfolio holdings and other key information. According to SEC, staff use the information to monitor MMFs. As part of its monitoring efforts, SEC's Division of Investment Management produces a monthly public report that statistically analyzes and summarizes the Form N-MFP data. The reports include information on the number of MMFs by type, the liquidity ratios of MMFs, and portfolio holding of MMFs, including changes from the prior month. Investment Management staff stated that they also may share information that may raise a compliance concern with Division of Examinations staff, and Examinations staff may request information to assist with examination efforts.

SEC first adopted the form as part of its 2010 MMF reforms to create a database of MMF portfolio holdings to oversee MMFs and respond to market events. In 2014, SEC amended the form to collect information related to newly or recently adopted requirements (e.g., minimum liquidity requirements) and to address information gaps identified through its past experience analyzing the data.

SEC's proposed amendments to Form N-MFP would require prime and other MMFs to report new information and more frequent data points for some of the form's existing fields. For example, the amendments would require such MMFs to report

- more frequent information about shareholder concentration, which would help SEC monitor a fund's potential risk of redemptions by an individual or a small group of investors that could significantly affect the fund's liquidity;
- new information about the composition of institutional prime and tax-exempt MMF shareholders by type (e.g., nonfinancial corporation, pension plan, and insurance company), which would help SEC monitor MMF liquidity and redemption risks;

- new information about the amount of portfolio securities sold by prime MMFs, which would help SEC monitor prime MMFs' liquidity management and secondary market activities in normal and stress periods, including how such transactions relate to broader trends in short-term funding markets; and
- more frequent information on daily liquidity, net asset value, and flow data to help SEC better and more precisely monitor risks and trends in these areas.

Some stakeholders that commented on SEC's proposed Form N-MFP reforms generally supported SEC's efforts to improve transparency for investors. However, some of these stakeholders believed that some new reporting requirements offered too much transparency. For example, a law firm stated that shareholder composition information could be used to monitor individuals' investment activity and should not be publicly reported.

---

## Agency Comments

We provided a draft of this report to SEC for review and comment. SEC provided technical comments, which we incorporated as appropriate.

We are sending copies of this report to the appropriate congressional committees, the Chair of the Securities and Exchange Commission, and other interested parties. In addition, the report is available at no charge on the GAO website at <https://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-8678 or [clements@gao.gov](mailto:clements@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix I.



Michael E. Clements  
Director, Financial Markets and Community Investment

*List of Committees*

---

The Honorable Sherrod Brown  
Chairman  
Committee on Banking, Housing, and Urban Affairs  
United States Senate

The Honorable Patrick McHenry  
Chairman  
Committee on Financial Services  
House of Representatives

Chair  
Vice Chair  
Committee on Appropriations  
United States Senate

Chair  
Ranking Member  
Committee on Finance  
United States Senate

Chair  
Ranking Member  
Committee on Health, Education, Labor, and Pensions  
United States Senate

Chair  
Ranking Member  
Committee on Homeland Security and Governmental Affairs  
United States Senate

The Honorable Kay Granger  
Chair  
The Honorable Rosa L. DeLauro  
Ranking Member  
Committee on Appropriations  
House of Representatives

The Honorable Cathy McMorris Rodgers  
Chair  
The Honorable Frank Pallone, Jr.  
Ranking Member  
Committee on Energy and Commerce  
House of Representatives

---

The Honorable Mark E. Green, M.D.  
Chairman

The Honorable Bennie G. Thompson  
Ranking Member  
Committee on Homeland Security  
House of Representatives

The Honorable James Comer  
Chair

The Honorable Jamie Raskin  
Ranking Member  
Committee on Oversight and Accountability  
House of Representatives

The Honorable Jason Smith  
Chair

The Honorable Richard Neal  
Ranking Member  
Committee on Ways and Means  
House of Representatives

---

## GAO Contact

# Appendix I: GAO Contact and Staff Acknowledgments

Michael E. Clements, (202) 512-8678 or [clementsm@gao.gov](mailto:clementsm@gao.gov)

---

## Staff Acknowledgments

In addition to the contact named above, Richard Tshara (Assistant Director), Philip Curtin (Analyst in Charge), Abigail Brown, William Chatlos, John Karikari, Risto Laboski, Ian Maloney, John McGrail, Emily O'Brien, Jennifer Schwartz, Jena Sinkfield, and Farrah Stone made key contributions to this report.

---

---

## GAO's Mission

The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

---

## Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through our website. Each weekday afternoon, GAO posts on its [website](#) newly released reports, testimony, and correspondence. You can also [subscribe](#) to GAO's email updates to receive notification of newly posted products.

---

## Order by Phone

The price of each GAO publication reflects GAO's actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO's website, <https://www.gao.gov/ordering.htm>.

Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537.

Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.

---

## Connect with GAO

Connect with GAO on [Facebook](#), [Flickr](#), [Twitter](#), and [YouTube](#).  
Subscribe to our [RSS Feeds](#) or [Email Updates](#). Listen to our [Podcasts](#).  
Visit GAO on the web at <https://www.gao.gov>.

---

## To Report Fraud, Waste, and Abuse in Federal Programs

Contact FraudNet:

Website: <https://www.gao.gov/about/what-gao-does/fraudnet>

Automated answering system: (800) 424-5454 or (202) 512-7700

---

---

## Congressional Relations

A. Nicole Clowers, Managing Director, [ClowersA@gao.gov](mailto:ClowersA@gao.gov), (202) 512-4400, U.S. Government Accountability Office, 441 G Street NW, Room 7125, Washington, DC 20548

---

## Public Affairs

Chuck Young, Managing Director, [youngc1@gao.gov](mailto:youngc1@gao.gov), (202) 512-4800  
U.S. Government Accountability Office, 441 G Street NW, Room 7149  
Washington, DC 20548

---

## Strategic Planning and External Liaison

Stephen J. Sanford, Managing Director, [spel@gao.gov](mailto:spel@gao.gov), (202) 512-4707  
U.S. Government Accountability Office, 441 G Street NW, Room 7814,  
Washington, DC 20548



**Please Print on Recycled Paper.**